

Remarks

Claims 38-57 are pending in the application, with claims 38, 49, 55 being the independent claims. Claims 38-57 stand rejected under 35 U.S.C. 103.

Reconsideration of the claims is respectfully requested in view of the following remarks.

Claim Rejections Under 35 U.S.C. 103

I. Claims 38, 39 and 48 stand rejected under 35 U.S.C. §103(a) as being unpatentable by Massie *et al.* (U.S. Patent No. 5,898,599) in view of Chen *et al.* (U.S. Patent No. 5,709,219).

The present invention, as recited by independent claim 38, includes a stylus, a sensor and an actuator, where the actuator is disposed within the stylus (see, e.g., the embodiment shown in FIG. 6 or 7). The stylus is configured to be manipulated against a surface and configured to be held in a hand of a user.

Massie discloses an interface device (see FIG. 8), where a user contact element or wand 802 is connected to one end of the end quarter-gimbal 804, and an actuator 812 is connected to the other end 808 of the end quarter-gimbal 804. In other words, **the actuator 812 is externally coupled to the wand 802 via the end quarter-gimbal 804 in the Massie device.**

Chen discloses various force-feedback devices such as a slip display, trackball, roller and belt, piezoelectrically actuated device, and magnetically actuated device. As shown in FIGS. 2 through 11, these various devices are worn by the user (e.g., the glove-like structure of the slip display in FIG. 2) or touched by the fingertip of the user (e.g., the various devices shown in FIGS. 2 through 11).

Unlike the present invention as recited by independent claim 38, where the actuator is disposed within the stylus, neither Massie nor Chen discloses or suggests **an actuator disposed within the stylus**. In fact, the final Office Action fails to address this claim recitation at all: the Massie actuator 812 is externally attached to the stylus 802. Massie as well as the final Office Action are entirely silent with respect to the actuator being “disposed within the stylus” as recited in independent claim 38.

Thus, the invention as recited in independent claim 38 is not disclosed in or suggested by Massie and Chen, either alone or in combination. For at least this reason, independent claim 38 is allowable. Based at least on their dependence upon independent claim 38, dependent claims 39 and 48 are also allowable. Applicant respectfully requests that the rejections be withdrawn.

II. Claims 40, 41, 44, and 45 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Massie in view of Chen and further in view of Berkson *et al.* (U.S. Patent No. 5,627,348).

Claims 40, 41, 44 and 45 depend from independent claim 38 and therefore are allowable for at least the reasons that independent claim 38 is allowable as discussed in Section I above. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claims 40, 41, 44, and 45.

III. Claims 42 and 43 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Massie in view of Chen and further in view of Van Namen (U.S. Patent No. 5,896,076).

Claims 42 and 43 depend from independent claim 38 and therefore are allowable for at least the reasons that independent claim 38 is allowable as discussed in Section I above. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claims 42 and 43.

IV. Claims 46 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Massie in view of Chen and further in view of Berkson and further in view of Van Namen.

Claim 46 depends from independent claim 38, and therefore is allowable for at least the reasons that independent claim 38 is allowable as discussed in Sections I above. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claim 46.

V. Claims 47, 49-53, and 55-57 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Massie in view of Chen and further in view of Gray *et al.* (U.S. Patent No. 5,571,997).

The present invention, as recited by independent claim 49, includes a stylus, a sensor and an actuator. The actuator is coupled to the stylus and configured to “**vibrate at a high frequency so that a modulated force is applied to the stylus.**” The present invention, as recited by independent claim 55, includes “applying a modulated force from an actuator to the stylus” where “the modulated force” is “**associated with a high-frequency vibration.**”

Gray discloses a pressure sensitive pointing device or pen for transmitting signals to a tablet. The device incorporates a variable reluctance circuit responsive to the force exerted on

the pen point and converts that force into a corresponding modulation in the output frequency (see col. 7, lines 40-48). In other words, **the force exerted on the pen point by the user is converted into an output signal** sent to the tablet (see col. 3, lines 52-61); **the frequency of the output signal is modulated based on the force exerted on the pen point by the user.**

Unlike the present invention, as recited by independent claim 49, where the actuator is “configured to vibrate at a high frequency so that a modulated force is applied to the stylus,” Massie, Chen and Gray are entirely silent. In fact, Gray merely discloses the output of a signal to the tablet where the frequency of the output signal can be modulated. Gray entirely fails to disclose or suggest any type of vibration of the stylus. The final Office Action also entirely fails to address any disclosure within Gray relating to any **vibration of the stylus**. Any characterization of the conversion of user-applied force into “an output frequency” in Gray is entirely unrelated to a vibration of the stylus. To characterize Gray otherwise strains credulity.

Thus, the invention as recited in independent claim 49 is not disclosed in or suggested by Massie, Chen and Gray, either alone or in combination. For at least this reason, independent claim 49 is allowable. Based at least on their dependence upon independent claim 49, dependent claims 50-53 are also allowable. Applicant respectfully requests that the rejections be withdrawn.

Furthermore, unlike the present invention as recited by independent claim 55 where a **modulated force from an actuator** is applied to the stylus in response to the movement signal, where **the modulated force being associated with a high-frequency vibration**, Massie, Chen and Gray are entirely silent as discussed above. Thus, the invention as recited in independent claim 55 is not disclosed in or suggested by Massie, Chen and Gray, either alone or in combination. For at least this reason, independent claim 55 is allowable. Based at least on their dependence upon independent claim 55, dependent claims 56-57 are also allowable. Applicant respectfully requests that the rejections be withdrawn.

In addition, claim 47 depends from independent claim 38, and therefore is allowable for at least the reasons that independent claim 38 is allowable as discussed in Section I above. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claim 47.

VI. Claim 54 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Massie in view of Chen and further in view of Gray and further in view of Van Namen.

Claim 54 depends from independent claim 49 and therefore is allowable for at least the reasons that independent claim 49 is allowable as discussed in Section V above. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claim 54.

CONCLUSION


All of the claims are in condition for allowance. Applicant believes that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

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